

What is claimed is,

1. A motor with a compound bearing for OA device having a spindle shaft assembled within a sleeve of the bearing apparatus through balls,

the bearing comprising;

the spindle shaft formed of a stepped shaft including a reduced diameter portion and a larger diameter portion,

an inner ring slidably fit over the reduced diameter portion of the spindle shaft,

a plurality of balls interposed between a raceway formed on the outer peripheral surface of the inner ring and a raceway formed on the inner surface of the sleeve, and

a plurality of balls interposed between a raceway formed on the outer peripheral surface of the larger diameter portion of the spindle shaft and a raceway formed on the inner peripheral surface of the sleeve,

wherein the bearing is completed as the compound bearing by fixedly adhering the inner ring on the reduced diameter portion of the spindle shaft with applying onto balls an appropriate pre-load through the inner ring, and

wherein the motor with the compound bearing is provided by connecting the sleeve of the compound ball bearing integrally with the hub constituting a rotor.

2. A motor with a compound bearing for OA device having a spindle shaft assembled within a sleeve of the bearing apparatus through balls,

the bearing comprising;

the spindle shaft formed of a stepped shaft including a reduced diameter portion and a larger diameter portion,

an inner ring slidably fit over the reduced diameter portion of the spindle shaft,

a plurality of balls interposed between a raceway formed on the outer peripheral surface of the inner ring and a raceway formed on the inner surface of the sleeve, and

a plurality of balls interposed between a raceway formed on the outer peripheral surface of the larger diameter portion of the spindle shaft and a raceway formed on the inner peripheral surface of the sleeve,

wherein the bearing is completed as the compound bearing by fixedly adhering the inner ring on

the reduced diameter portion of the spindle shaft with applying onto balls an appropriate pre-load through the inner ring, and

wherein the motor with the compound bearing is provided by connecting the spindle shaft of the compound ball bearing integrally with the hub constituting a rotor.

3. A motor with a compound bearing for OA device having a spindle shaft assembled within a sleeve of the bearing apparatus through balls,

the bearing comprising;

the spindle shaft formed of a stepped shaft including a reduced diameter portion and a larger diameter portion,

an inner ring slidably fit over the reduced diameter portion of the spindle shaft,

a plurality of balls interposed between a raceway formed on the outer peripheral surface of the inner ring and a raceway formed on the inner surface of the sleeve, and

a plurality of balls interposed between a raceway formed on the outer peripheral surface of the larger diameter portion of the spindle shaft and a raceway formed on the inner peripheral surface of the

sleeve,

wherein the bearing is completed as the compound bearing by fixedly adhering the inner ring on the reduced diameter portion of the spindle shaft with applying onto balls an appropriate pre-load through the inner ring, and

wherein the motor with the compound bearing is provided by connecting the sleeve of the compound ball bearing integrally with the base.

4. A motor with a compound bearing for OA device having a spindle shaft assembled within a sleeve of the bearing apparatus through balls,

the bearing comprising;

the spindle shaft formed of a stepped shaft including a reduced diameter portion and a larger diameter portion,

an inner ring slidably fit over the reduced diameter portion of the spindle shaft,

a plurality of balls interposed between a raceway formed on the outer peripheral surface of the inner ring and a raceway formed on the inner surface of the sleeve, and

a plurality of balls interposed between a raceway formed on the outer peripheral surface of the

larger diameter portion of the spindle shaft and a raceway formed on the inner peripheral surface of the sleeve,

wherein the bearing is completed as the compound bearing by fixedly adhering the inner ring on the reduced diameter portion of the spindle shaft with applying onto balls an appropriate pre-load through the inner ring, and

wherein the motor with the compound bearing is provided by connecting the sleeve of the compound ball bearing integrally with the base formed integrally with a stator yoke holder.

5. A motor with a compound bearing for OA device having a spindle shaft assembled within a sleeve of the bearing apparatus through balls,

the bearing comprising;

the spindle shaft formed of a stepped shaft including a reduced diameter portion and a larger diameter portion,

an inner ring slidably fit over the reduced diameter portion of the spindle shaft,

a plurality of balls interposed between a raceway formed on the outer peripheral surface of the inner ring and a raceway formed on the inner surface

of the sleeve, and

a plurality of balls interposed between a raceway formed on the outer peripheral surface of the larger diameter portion of the spindle shaft and a raceway formed on the inner peripheral surface of the sleeve,

wherein the bearing is completed as the compound bearing by fixedly adhering the inner ring on the reduced diameter portion of the spindle shaft with applying onto balls an appropriate pre-load through the inner ring, and

wherein the motor with the compound bearing is provided by connecting the spindle shaft of the compound ball bearing integrally with the base.